

51" GUIDE SURFACE FIRST STAGE*

DATE	DROP TEST	SPEED KIAS	ALTITUDE	OPEN DELAY	OPEN FORCE PEAK	RATE OF DESCENT		REV PER MIN			REMARKS
						Max (FPS)	Avg	Peak	Avg-Time	Min	
2/27/61	0242	110	12000	Static		180		52	45-20sec	35	
2/28/61	0247	110	12000	Static		185	180	18	16-17sec	14	
3/1/61	0252	130	12000	Static		208	190	28	23-20sec	20	Kit separated when chute opened
3/7/61	0263	150	15000	5 Sec.	3080						1st stage released 3 sec. after open
3/8/61	0267	150	15000	5 Sec.		190	184				Strain gauge broken at 820 lbs-No test
3/9/61	0273	150	15000	5 Sec.		208	190				

60" GUIDE SURFACE FIRST STAGE

2/24/61	0211	110	12000	Static		179	162	22			1st stage extracted the main & did not cut away
2/28/61	0212	110	12000	Static		178	169	22	16-41sec	14	
3/1/61	0250	130	12000	Static		162	159				
3/7/61	0261	150	15000	5 Sec.	1490						1st stage prematurely released 4 sec. after opening.
10/61	0279	150	15000	5 Sec.	2860 lbs	212	157	44	29-63sec	21	Right shoulder did not release-(Still picture taken) Strain gauge broken 2860

78" First Ribbon First Stage - (60' GS Drag Equivilant

DATE	DROP TEST	SPEED KIAS	ALTITUDE	OPEN DELAY	OPEN FORCE PEAK	RATE OF DESCENT		REVOLT PER MIN			REMARKS
						Max (FPS)	Avg	Peak	Avg-Tim	Min	
2/27/61	0241	110	12000	Static		138	134				Bad film after first 15 sec.
2/28/61	0213	110	12000	Static		150	128	32	25-45sec	20	
3/1/61	0251	130	12000	Static		149	120				
3/8/61	0266	150	15000	5 Sec	7601bs	154	149				
3/9/61	0272	150	15000	5 Sec	9001bs	178	152				
3/10/61	0280	150	15000	5 Sec	3,650	155	149	23	17-44sec	9	Strain gauge broken- opening force in- valid Lower main sling separated when recovery chute opened
3/14/61	0335	150	15000	5 Sec				16	13-42sec	8	

*First stage release set at Seven thousand ft.
plus 10 sec. Recovery chute set at five
thousand ft and 10 seconds.

4 FT DIAMETER BALLOON FIRST STAGE

DATE	DROF TEST	SPEED	ALTITUDE	OPEN DELAY	OPEN FORCE	RATE OF DESCENT		REVOLT PER MIN			REMARKS
		KIAS			PEAK-TIME	Max (FPS)	Avg	Peak	Avg-Tim	Min	
2/28/61	0248	110	12000	Static		143	130	17	13-47sec	10	
3/1/61	0253	130	12000	Static		150	130				
3/7/61	0264	150	15000	5 Sec.	1100	185	162				47" yoke-10' single riser-7½' strain gauges-Total 14'7"
3/10/61	0282	150	15000	5 Sec.		172	162				
3/21/61	0474	150	15000	Static		211	157				28' reserve tangled with balloon-clobber job
3/22/61	0476	110	20000	Static	550	201	165	46	42-85 sec	36	
<u>4 FT. DIAMETER BALLOON FIRST STAGE</u>											
2/28/61	0249	110	12000	Static		157	136	20	15-51sec	8	
3/1/61	0254	130	12000	Static		170	142				
3/8/61	0269	150	15000	5 sec.	980	175	148				15' riser-total 19' 7"
3/22/61	0475	150	15000	Static		158	139				
<u>BY PASS OF FIRST STAGE TESTS</u>											
3/10/61	0333	150	15000	Free fall to 5Kft.+10sec.							Good Test
3/21/61	0429	150	15000	Free fall to 5Kft.+10sec.				37	34-37sec		Bad spin-50% of recovery chute damaged
3/22/61	0478	150	15000	Free fall to 5Kft.+10sec.							Good test

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2/28/61	0247	110	12000	Static		185	180	18	16-17sec	14	
3/1/61	0252	130	12000	Static		203	190	28	23-20sec	20	Kit separated when chute opened
7/7/61	0263	150	15000	5 Sec.	3080						1st stage released 3 sec. after open
3/8/61	0267	150	15000	5 Sec.		190	184				Strain gauge broken at 820 lbs-No test
3/9/61	0273	150	15000	5 Sec.		203	190				

60" GUIDE SURFACE FIRST STAGE

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2/28/61	0212	110	12000	Static		178	169	22	16-41sec	14	
3/1/61	0250	130	12000	Static		162	159				
3/7/61	0261	150	15000	5 Sec.	1490						1st stage prematurely released 4 sec. after opening.
5/10/61	0279	150	15000	5 Sec.	2860 lbs	212	157	44	29-63sec	21	Right shoulder did not release-(Still picture taken) Strain gauge broken 2860

78" First Ribbon First Stage - (60" GS Drag Equivilant

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2/28/61	0213	110	12000	Static		150	128	32	25-45sec	20	
3/1/61	0251	130	12000	Static		149	120				
4/61	0266	150	15000	5 Sec	760lbs	154	149				
3/9/61	0272	150	15000	5 Sec	900lbs	178	152				
3/10/61	0280	150	15000	5 Sec	3,650	155	149	23	17-44sec	9	Strain gauge broken- opening force in- valid Lower main sling separated when recovery chute opened
3/14/61	0335	150	15000	5 Sec				16	13-42sec	8	

*First stage release set at Seven thousand ft.
plus 10 sec. Recovery chute set at five
thousand ft and 10 seconds.

4 FT DIAMETER BALLOON FIRST STAGE

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		KIAS				PEAK-TIME	Max (FPS) Avr	Peak	Avg-Tim	Min	
2/28/61	0248	110	12000	Static			143 130	17	13-47sec	10	
3/1/61	0253	130	12000	Static			150 130				
3/7/61	0264	150	15000	5 Sec.	1100		185 162				47" yoke-10' single riser-7 1/2' strain gauges-Total 14' 7"
1/10/61	0282	150	15000	5 Sec.			172 162				
3/21/61	0474	150	15000	Static			211 157				28' reserve tangled with balloon-clobber job
3/22/61	0476	110	20000	Static	550		201 165	46	42-85 sec	36	
<u>4 FT. DIAMETER BALLOON FIRST STAGE</u>											
2/28/61	0249	110	12000	Static			157 138	20	15-51sec	8	
3/1/61	0254	130	12000	Static			170 142				
3/8/61	0269	150	15000	5 sec.	980		175 148				15' riser-total 19' 7"
3/22/61	0475	150	15000	Static			158 139				
<u>BY PASS OF FIRST STAGE TESTS</u>											
1/10/61	0333	150	15000	Free fall to 5Kft.+10sec.							Good Test
3/21/61	0429	150	15000	Free fall to 5Kft.+10sec.				37	34-37sec		Bad spin-50% of recovery chute damaged
3/22/61	0478	150	15000	Free fall to 5Kft.+10sec.							Good test

HEADQUARTERS
AIR FORCE SYSTEMS COMMAND

UNITED STATES AIR FORCE
Andrews Air Force Base
Washington 25, D.C.

31 Aug 61

REPLY TO
ATTN OF:

SCGB


SUBJECT:

Conference on Biomedical Program

STATINTL TO:



1. Reference recent telephone conversation regarding conference on biomedical program to be held 8 Sep 61, 0900 hrs, the following agenda is suggested. It is hoped that each participant will arrive with proper material and information to discuss definite facts and figures.
2. We expect to define the safe and proven limits and reliability for all of the protective and support equipment in terms of time and environmental forces. This includes such things as the ejection seat, pressure suit, oxygen equipment and survival gear. We will discuss to what extent each individual component has been tested against environmental forces and time factors; then, what we know about the extension of these factors under emergency situations. In other words, if one had to get out of this proven period, what do we know in terms of extensions, greater needs, greater wind blasts, velocities, etc. In conjunction with this item, we want the figures on oxygen duration, breathing time against oxygen duration, etc.
3. We wish to go from this into the additional things that we would have to do to provide for a two-place vehicle, both in terms of extra oxygen equipment and problems of ejection seat. On this latter, we need to discuss mission durations of up to sixteen hours.
4. Then, we need discussions on in-flight refueling missions, crew control centers, trailers (both the pie wagon and the maintenance trailer) -- what has been done to check them out, any weaknesses uncovered, etc.; support personnel and their time of arrival, any preliminary or OJ training required.
5. As a final product from this meeting, we should be able to very objectively specify what we now have in terms of crew maintenance and recovery equipment and what we will require in terms of further tests.


Don Flickinger
Brig Gen, USAF (MC)
Ass't for Bioastronautics

RATE OF DESCENT

28 Ft. Chute in ft/sec.

<u>POUNDS</u>	<u>SEA LEVEL</u>	<u>10,000 Ft.</u>	<u>12,000 Ft.</u>	<u>15,000 Ft.</u>
175	18.55	21.6	22.2	23.4
200	19.6	22.8	23.6	24.7
225	20.8	24.2	25.0	26.2
250	21.9	25.5	26.3	27.6

35 Ft. Chute

175	15.6	18.15	18.7	19.65	
200	16.5	19.4	19.8	20.8	
225	17.5	20.4	21.0	22.05	
250	18.45	21.5	22.15	23.25	

20,000 Ft.

21.9

22.1

24.2

24.2

Correction factors for altitude from sea level are: 10M - 1.1637
12M - 1.2012
15M - 1.2608

Correction factors for weight corrected from 200 lbs are: 175 lb. - .946
225 lb. -1.06
250 lb. -1.117

Free fall velocity at 20,000 ft.

220 fpo = 95 KIAS
230 " = 97.5 "
240 " = 103.8 "
250 " = 107.9 "